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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,906	07/20/2005	Jozef Laurentius Wilhelmus Kessels	NL 030105	1816

24737 7590 07/05/2007  
PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER	
CERULLO, JEREMY S	

ART UNIT	PAPER NUMBER
2111	

MAIL DATE	DELIVERY MODE
07/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,906	<b>Applicant(s)</b> KESSELS ET AL.	
	<b>Examiner</b> Jeremy S. Cerullo	<b>Art Unit</b> 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-17 are pending in the following action.

#### ***Claim Objections***

2. Claims 9-12 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 1-3, 6, 8-10, 13-14, 16 contain the phrase "adapted to". It is not clear in the claims how the components described as such are "adapted to" perform their respective functions, and as such, the claims are considered indefinite.

6. Claims 2-16 also inherit the indefiniteness from Claim 1 and any other claims listed above from which they depend.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-5, 8, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,964,866 ("Durham" et al.) and MOUSETRAP: Ultra-High-Speed Transition-Signaling Asynchronous Pipelines ("Singh" et al.).

10. As for Claim 1, Durham teaches a pipeline synchronization device comprising a latch (Figure 2, Items 36 and 42) for exchanging data having a signaling output (Figure 2, Item 74) for coordinating the data exchange with the external device, and a synchronizer (Figure 2, Item 76) adapted to synchronize the change in the signaling output with the clock of the external device (Figure 6, SYNC\_DATA\_ENB). Durham does not teach the use of a mousetrap buffer in the latch in the system. However, Singh teaches the use of mousetrap circuits for pipeline synchronization (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used mousetrap buffers as taught by Singh in the system of Durham in order to more efficiently synchronize the data pipeline.

11. As for Claims 2-3 and 8, Durham further teaches that the signaling output is synchronized after a delay based on a transition of a clock signal (Figure 6).

12. As for Claim 4, Durham further teaches that the synchronizer comprises a latch (Figure 6, Items 88 and 90) having a synchronizing input (Figure 6, REQUEST), a synchronizing output (Figure 6, SYNC\_DATA\_ENB), and control inputs for enabling the output (Figure 6, CLK, PH1, and PH2).

13. As for Claim 5, Singh further teaches that the mousetrap logic comprises an XNOR gate with the inputs attached to the input and the output of a latch and that the logic comprises a delay circuit between the data latches (Figure 2).

14. As for Claim 13, Singh further teaches that the latch receives data and also sends an acknowledge signal back to the sender (Figure 2).

15. As for Claim 14, Durham further teaches that the latch is adapted to transfer data to an external device and that latch has a way to signal a request for sending the data (Column 4, Line 63 – Column 5, Line 15).

16. As for Claim 15, Singh further teaches that the mousetrap logic comprises an XNOR gate with the inputs attached to the input (request) and the output (acknowledge) of a latch and that the logic comprises a delay circuit between the data latches based on a clock signal (Figure 2).

17. As for Claim 16, Durham further teaches that the signaling output is synchronized after a delay based on a transition of a clock signal (Figure 6).

18. Claim 17 is drawn to a method of using the device of Claim 1 and as such is rejected on the same grounds.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent No. 5,389,835 and U.S. Patent No. 5,392,423.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy S. Cerullo whose telephone number is (571) 272-3634. The examiner can normally be reached on Monday - Thursday, 8:00-4:00; Alternate Fridays.

Art Unit: 2111

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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